| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/815,942 | BLOTT ET AL. | |
| | Examiner | Art Unit | |
| | Mohammad A. Siddiqi | 2154 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *09/28/2006*.
2. ☒ The allowed claim(s) is/are *1-20*.

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

## DETAILED ACTION

1. Claims 1-20 are allowed

## REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: The examiner has found that none of the cited prior art references discloses the application-level utilization of the pointers, and no exchanging pointers between an operating system and a network application, as set forth in the independent claims 1, 17, and 19.

Claims 2-16 depend from claim 1, and are thus allowed for the same reasons.

Claims 18 depend from claim 17, and are thus allowed for the same reasons.

Claims 20 depend from claim 19, and are thus allowed for the same reasons.

3. Please amend the claims 1, 17, and 19 as attached.

4. Any comments considered necessary by applicant must be submitted no later than payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee Such submissions should be clearly labeled "Comments Statement of Reasons for Allowance."

## EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview *Eamon J. Wall* with on 12/21/2006.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad A. Siddiqi whose telephone number is (571) 272-3976. The examiner can normally be reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAS

Please amend the claims as attached.

IN THE CLAIMS:

1. (currently amended) An application programming interface (API) for network applications ~~capable of~~ processing packets having source and destination node addresses different from a node where the application runs, said API stored in a computer readable medium, said API comprising:

first and second data structures associated with a network interface in communication with a network, said first and second data structures being mapped to an operating system and a network application, said network interface, operating system, and network application ~~residing~~ stored at a node capable of processing packets having source and destination node addresses different from said node where the application runs, wherein:

packets to be passed from the operating system to the network application are stored in a buffer and referenced via respective pointers within said first data structure, said respective pointers being exchanged between said operating system and said network application, said first data structure pointers being inserted into said first data structure by said operating system prior to network layer processing, said first data

structure pointers being removed by said network application, insertion and removal of said first data structure pointers being asynchronous with respect to each other; and

packets to be processed as received packets by said network layer of said operating system are stored in a buffer and referenced via respective pointers within said second data structure, said respective pointers being exchanged between said network application and said operating system, said second data structure pointers being inserted into said second data structure by said network application, said second data structure pointers being removed by said operating system, insertion and removal of said second data structure pointers being asynchronous with respect to each other.

17. (currently amended) An application programming interface (API) for network applications processing, ~~which applications can process~~ packets whose source and destination node addresses are nodes different from a node where the application runs, said API stored in a computer readable medium, said API comprising:

a primitive for creating a first and a second data structures associated with a specified network interface, if said data structures do not exist, and mapping said data structures both to the operating system and a specified network application, said network interface, operating system, and network application ~~residing~~ stored at a node

capable of processing packets having source and destination node addresses different from said node where the application runs, wherein

the specified network interface receives and sends packets from and to a network,

each said packet is stored in a buffer mapped both to the operating system and the specified network application,

the operating system inserts into and the specified network application removes from said first data structure, a pointer to each buffer containing a packet that the operating system's network layer outputs to the specified network interface, before the network interface sends said packets, said insertions and removals being asynchronous with respect to each other, and

the specified network application inserts into and the operating system removes from said second data structure, a pointer to each buffer containing a packet that the specified network interface sends to the network, said insertions and removals being asynchronous with respect to each other.

19. (currently amended) An application programming interface (API) for network applications processing, ~~which applications can process~~ packets whose source and destination node addresses are nodes different from a node where the application runs, said API stored in a computer readable medium, said API comprising:

a primitive for creating a first and a second data structures associated with a specified network interface, if said data structures do not exist, and mapping said data

structures both to the operating system and a specified network application, said network interface, operating system, and network application ~~residing~~ stored at a node capable of processing packets having source and destination node addresses different from said node where the application runs, wherein

the specified network interface receives and sends packets from and to a network and does not require a coprocessor,

the specified network application requires supervisor privileges,

every packet is stored in a buffer mapped both to the operating system and every network application,

the operating system's network and higher protocol layers do not process any packets that the specified network interface receives or sends,

the operating system inserts into and the specified network application removes from said first data structure, a pointer to each buffer containing a packet that the specified network interface receives from the network, said insertions and removals being asynchronous with respect to each other, and

the specified network application inserts into and the operating system removes from said second data structure, a pointer to each buffer containing a packet that the specified network interface sends to the network, said insertions and removals being asynchronous with respect to each other.